The Journal
OF THE
Jamaica Agricultural Society.

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OWING to the meeting of the Board of Management in October being held late in the month, while the date for the November meeting fell early in that month, and on account of the Deputy Chairman and Secretary having to be absent in the country when the November meeting was due, the members of the Board agreed to hold the next meeting on Thursday, the 12th December, at 11.40, and to hold the half-yearly general meeting on the same date at 12.30 p.m.

The report of these December meetings will be published in the January JOURNAL.

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With this number the volume for 1907 is concluded. It contains the index for the volume, and readers should now arrange to have the copies for 1907 bound. Our printer, Mr. Aaron M. Sollas, 22 Duke Street, Kingston, will bind the volume for four shillings.

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Readers should note that there were only eight issues of the JOURNAL in 1907. January, February and March, and May, June and July forming two issues instead of six.

LECTURES ON AGRICULTURE.

IT is an opinion expressed by some that mere lectures on cultivation (we presume meaning agriculture) are useless and a waste of money and time.

Now this is all wrong. Lectures on agricultural matters are as useful as sermons from the pulpit are on religious matters. They are not everything, but they are an absolutely necessary part of a whole scheme of instruction. They form the preliminary effort; they allow of an Instructor introducing himself and his views at one time to a number of people; they arouse attention to the necessity and need for agricultural effort; they provide the opportunity to let it be known that whatever is, is not of necessity best; that there is always something to be learned, and just as children go to school,

and people attend church, there is the same need for enlightenment and improvement regarding the means of earning one's living, and that here is agriculture.

Twelve years ago, there was no call from agriculturists for knowledge about their trade; there were no settlers showing any desire for an Instructor to visit them; indeed, they hardly knew what the term meant, far less would they have been willing to follow what an Instructor suggested; nor would they have dreamed of reading a book or paper on agriculture, nor of attending a meeting of an Agricultural Society, nor, indeed, of writing a letter to Kingston as they do now to us. They knew little about the importance of their trade or of being good at it, to themselves, to their district, to their parish, and the island. They thought that what they knew, and how they worked, was all that was to be known, and all that was required. Agriculture was not improving; it seemed, indeed, to be going to the dogs; agriculturists were ashamed of their calling, and thought their children should be trained to some other calling. School teachers brought up in a code that said little about agriculture, thought it was rather a degrading thing to work on the land, they certainly did not think it important to know anything about agriculture. Children grew up in the same opinion—children, nine-tenths of whom would require to engage in agriculture for a living—the result is, to-day, that these same children, now grown up young men and girls, are unable, or unwilling, to work in the fields, and so make their old parents work harder to support them. Many of the old time people have expressed to us their disappointment and grief over the fact that their sons and daughters will not work in their cultivations, or do so erratically and unwillingly. Other foolish parents accept it—this hankering after "fine work"—as the right thing, because it has all come about under the authority of Church and State.

The tide of retrogression was largely stemmed by the popularizing of agriculture by the Agricultural Society, its JOURNAL, the Instructors, led by Mr. Cradwick, and the great personal and practical interest two Governors took in the work—Sir Henry Blake, who led off the enterprise twelve years ago, and Sir Sydney Olivier, first, as Colonial Secretary of the Island, and now as Governor, both of whom recognized it as a duty to help agriculture in the most practical way, that is, by being in close touch with the work personally.

Lectures have done this: they have brought out people to meetings, engaged their attention, made clear what was aimed at, showed that there was no mystery, and nothing sinister about the purposes of the Agricultural Society; fifty-four local Agricultural Societies have been formed, sometimes with great enthusiasm, local shows have been run, local competitions in agriculture have been carried through, Penny Banks have encouraged thrift, Loan Banks have helped men through a misfortune, the competitors in prize holdings competition have more than doubled in the second round, JOURNALS have been received and read, and many letters are written on agri-

cultural matters by people who never wrote on this subject before, new products are eagerly tried, garden vegetables grown, experiment grounds established, more live stock kept, and better kept, manuring, mulching, and forking done. More teachers are now keen agriculturists, eager to secure lands for the purpose of cultivation, and for keeping stock; children now work in school gardens willingly, even cheerfully. Only a little while ago (five years) a band of mothers nearly mobbed an Instructor for bringing their children out of school to work in these gardens. Now there is a dignity in agriculture, and the knowledge of it is growing so rapidly that when the present school children grow up, and become the settlers and workers, *their one desire will not be to avoid agriculture as a business, but to engage in it, as the most suitable calling for them in this country, and the best of all callings* at any rate.

On page 281 of the JOURNAL for 1899, in connection with Kingston *agricultural show*, we wrote the following, and, in doing so, made the resolve that we would make it our endeavour to try to alter such a state of affairs :—

"In agriculture there is no standing still, there is quite as much to be attempted, quite as much to be gained, quite as much as is noble, as in any other walk in life. The more a land is cultivated the more it will produce, and a nation or people that cultivates the land to its fullest extent, and uses for food mostly that which it produces, can feed an innumerable population, all working honestly for bread at the healthiest of occupations, and send out supplies to their less prosperous neighbours. The true test of the progress or prosperity of a country is not to be considered from the numbers of its learned men, its colleges, schools, churches, its charitable institutions, its flourishing businesses and stores. These can hardly be called the test of real prosperity. They are external signs, but the country is not to be judged by them. The real test is, can a country feed and clothe its own people? A country that cannot feed its own people, and supply them with all the necessaries of life from its own land, and whose imports are greater than its exports, such a country must be considered in a very unprosperous condition. It is from the land that everything comes that man needs, for either food, clothing, or shelter, and the cultivation of the land is the foundation of all prosperity. Many people in Jamaica, born to the soil, have been thinking that it is ignoble to till the soil; that to be seen in rough clothes, and with the smell of the earth about them, is not dignified, and so they have, under such delusions, fled from the most noble occupation on earth as from a pestilence; they have shirked their duty to the land that bore them, ceased to be direct producers of wealth in the island, and so we are suffering largely from their failure in duty in the unprosperous condition of the island to-day. So long as notions as these prevail, so long as we import tremendous quantities of unnecessary foodstuffs, so long as Jamaica can feed her people, but does not, through ignorance, sloth, prejudice, or from any cause whatever; so long as our exports are less than half … population should be able to produce, so …

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we be spurred to greater efforts and fresh endeavours, and to this end there is great and pressing need for agricultural propaganda." But, oh, let it be well thought out, systematic, and practical.

MULCHING AND DRAINAGE.

Through mulching and draining we have seen the available soil made a foot deeper, and the deepening has taken place as much on the top as below.

Every Instructor has his own methods, all working to the same end by slightly different ways. Mr. Arnett has done great good by recommending, first, the spreading of a mulch of any sort of vegetable material on the land cultivated in permanent crops; then a thorough system of deep trenching, whether in dry or wet land, the dirt being spread on the mulch, not piled up at the edge of the drain, as is the usual way, but which blocks drains and allows dirt to wash into the drains again, or against the trees, which is the worst of all ways, but spread between. Thus, there are several inches depth of vegetable matter covered by soil, all of which soon becomes a bed of manure. The benefit to bananas by this method is, in small settlers' places, immediate and wonderful.

The only drawback in permanent cultivations of cocoa and coffee is that care is required to be exercised in not letting the trees become deep in soil, but this can be avoided by not going close to these trees in the operation but keeping between, and in a few months the soil settles and compacts nearly to its former level. With this method, on poor, dry, red lands, the soil is simply made anew, of a better type, and which can grow everything, when, as it was, it could grow little. The Rev. Mr. Evelyn, Whitehall, Trelawny, has, by following these methods, and by dint of patient work, and using up all the trash he could get, with all the manure from fowls, rabbits and horses that he keeps, made poor, dry soil, almost useless before, become very productive.

Mr. Cradwick is the apostle of the fork and drainage to deepen, sweeten, and enrich the cultivatable soil. Mr. Palache is the special advocate of mulching and manuring. Mr. Hirst is great on burying weeds in trenches, between rows of established crops. Mr. Mennell is Mr. Cradwick's disciple. But all, in their work, thoroughly realised the necessity of trenching, and deeper trenching, and still deeper trenching in many places, until four feet has been reached with benefit. The little six to twelve inch drains, following the contour of the wash on the land, are no good for real drainage. They take off surface water, but still the land is washed and gullied. Cross trenches, at least two feet deep, are what every small settler wants in his land, no matter what kind of soil he has, or where situated. These intercept the flood of rain water washing over the soil before it runs far, and before it can wash much; they make the land more

porous, so that the water sinks through the soil more readily, especially if there is also deep, soft soil; but, better still, with a surface mulch, the water cannot wash at all, but is held and the surplus sinks through into the drains. Crops grow more quickly with a soil made thus open, and there is no chilling of the soil in continuous rains in October, when the change of the weather takes place, and vegetation is often almost at a standstill for the next few months as regards growth. Good drainage, therefore, hastens the growth of crops, especially quick-growing crops like bananas.

Now is the time to mulch with every bit of "trash" of any kind that you can scrape up. It is the belief of many that we are in for a long spell of dry weather again. Whether or not, it will be a good insurance to mulch bananas especially, also cocoa, coffee, yams, and even coconuts.

GROUND PROVISIONS.

The Collector-General, in an otherwise interesting and complete annual report, has, in reference to the area under ground provisions, arrived at a totally wrong conclusion. He attributes the shrinkage of the area under ground provisions to the teachings of the Agricultural Instructors having taken such effect that the people have planted their lands more in permanent crops. There has, indeed, we are glad to say, been a considerable increase in the planting of permanent crops, more cocoa and coconuts especially. And there has, too, been a considerable replanting of old "bought" lands—that is, not rented lands, near the road side, which were lying in the bush or pasture—in ground provisions, through which permanent crops are often planted, when the yams and cocoes provide shade. But, apart from this last, which is solely owing to the Instructors' teachings about manuring and mulching for presumably worn-out lands, provisions are, as a general rule, planted on rented lands, where permanent crops would not be planted.

Again, land is so plentiful and easy to be rented, in most of the provision-growing districts, that it would never be necessary for a man to grow a yam less in order to grow a coffee plant more.

We now give the true reason for the reduced production of ground provisions :—

1. There has been a dimunition since 1903.

2. There was no diminution in 1906 as compared with 1905 and 1904.

3. There is, again, a considerable diminution in the amount planted this year.

4. The cause of the reduction in 1903 was (*a*) the hard times following the hurricane—people ate up their plants, (*b*) the discouragement caused by the increased prædial larceny, consequent on these hard times, (c) the destruction and loss of plants by the hurricane, but this to a lesser degree than cause (*b*).

5. Cause of no natural increase in 1906 :—(*a*) Three wet years in succession ; (*b*) emigration ; (*c*) old cultivators dying out, and the unsettled and dissatisfied state of the younger generation, comparatively few of whom will cultivate provisions largely.

6. Cause of diminution this year :—(*a*) Drought, (*b*) consequent hard times—no money to buy plants and scarcity of plants.

This is a full statement from information supplied by the Instructors themselves, than whom no persons at all can be better informed, and is borne out by our own observation and experience.

SEED POTATOES.

THE seed potatoes we import every year, towards the end of October, where planted early in November, are ready to lift some time in January. Sometimes the crop is fit in nine or ten weeks, and always within the three months. In the lowlands the winter is the only time potatoes can be grown, but in the hills over 1,700 feet, the March and April planting gives a better return. So that the potatoes lifted in January may be used as "seed" to plant in the Spring. But here potatoes, curiously, take long to sprout, and become fit to plant. Only potatoes grown in the hills should be used for planting. It is found that the first crop of potatoes, grown from imported seed, and the next, when used for planting, give a better return than the imported seed. Those who wished to plant in the Spring again, should go through their potato cultivation just before they are ripe, and choose the most vigorous plants, then scrape into the earth, and see if there are abundant tubers, say six or more. If so, these roots should be lifted, and if they are satisfactory on inspection, kept for seed. For seed purposes, the potatoes are better lifted, a little before they are ripe enough to lift for eating purposes. The selected potatoes intended for planting should be spread singly on a tray, and put in a cool place, where they get some light. They will become green on exposure, and are thus better for seed, and this helps them to show sprouts more quickly. For eating purposes, however, they should be carefully kept from the light and stored in a cool, dry, dark place. Note the difference of treatment.

OTHER LANDS.

THE GERMAN CULTIVATOR.—This section, in the heart of the Erz mountains, is one of the most rugged in Germany. The land is rough and uneven, the mountain sides steep, and the valleys deep and narrow. The soil is not productive and crops are limited, but mountain farms and meadows are things of beauty. The individual holdings are small, averaging less than twenty acres, but the hillside farms are terraced from the valleys to the mountain tops, and then

over and down the other side, and are cultivated like gardens. Every available spot must pay its toll, many fields hardly rising to the dignity of garden patches.

Seeing the German farmer at home, I seem to understand why it is that the German farmer in America almost invariably prospers, and how it is that he becomes rich on forty acres of land while his neighbour so often gets poorer year by year on 160 acres. The habits of work and thrift have been fixed by generations, twenty or thirty of them. He has learned to toil and to waste nothing. Necessity has made him frugal. These habits have been learned, as they are still learned here to-day by precept and example.

I often see very old men or children gathering up the droppings from passing teams along the country highways, or gathering twigs in the little city woods. When a tree is felled or branches are torn off by storms, they are used to the very smallest twigs, the latter being cut and tied in little bundles and sold or used for fuel. When a patch of woodland has been cut off, and the tree trunks sold for lumber or pulp wood, branches and twigs are carefully gathered for firewood, and even the stumps, and as much of the roots as is practicable are dug out and cut for fuel. The weeds picked from the fields of growing grain are not thrown in a heap to rot, but are taken to the pigsty. I remember a slip of a girl with a great basket on her back picking a green weed along a valley road early in the spring. I asked her what it was, and if it was good to eat. She told me the name (a local designation which I have forgotten) and added: "Oh, no; the pigs get these."

There are few isolated farm houses. The German farmers live in villages, and cultivate the land adjacent. In this district the population is enormously in excess of what the land will support, and, practically, every farm house is a lace factory, a toy factory, or a trimmings depot as well. Men and women, sons and daughters, both large and small, do both kinds of work. I have often watched whole families at work in the fields—father, mother, and children. It is really gardening rather than farming. Why, men rake the fields with hand rakes, as we rake our lawns. Women and children pick dandelions from the grass patches and weeds from the growing grain fields. Farm implements are few and primitive. Men sow the seed by hand and mow with a scythe.

Much fertilizer is necessary and every scrap of barnyard manure is utilized. It is heaped up in carefully built piles in front of every door all winter long, for house and stable are almost invariably in the same building, under the same roof, and with only a partition between them. Under every manure pile is a great vat to catch and hold all drainage therefrom. The manure itself is spread over the surface of the land and plowed under. Then the liquid from the vats is hauled out in a peculiar tank cart that looks like a lean street sprinkler, and the plowed land is drenched therewith.—*U. S. A. Consul Report.*

[A tithe of the toil, the economy, and the persistence of the German peasant farmer, exercised here, would transform many a

piece of bush into productive land. One item alone—the careful utilisation of all forms of manure, would double, yes, and quadruple the productive capacity of many a small place.—Ed.]

FIBRE MACHINES.

There has been submitted to the Board of Management particulars of machines for decorticating fibres; four different machines to be worked by hand or power. No. 1 cost 24s.; No. 2, 28s.; No. 3, 36s. These are called the Defibreur.

Then there is the Decupeur; price 13s. This is for working leaves and trunks of bananas, and preparing them for the Defibreur.

Then there is the Ecraseur, which is also to facilitate the quick working of the Defibreur in the preparing of the thick leaves of Sansevieres (French). This cost 28s. to 32s.

Then there is the Depulpeur for removing the surplus sop pulp from the banana, at the cost of 5s.

Thus, for the complete treatment for any kind of fibre, four small and cheap machines are necessary. They are all portable, and can be fixed up very easily.

Anybody interested can get a specification from F. Dazy & Co., 20 Paper Street, London, E.C.

TICKS.

In ordinary times, when grass and water are plentiful native-born cattle and horses appear, to a large extent, inured to ticks, and so do not appear to suffer much discomfort by their presence in ordinary numbers. Still, a number of ticks, sucking blood all the time, means that the blood lost has to be made good from the food consumed. Therefore, picking and washing of stock must be continued so long as ticks are present for the good of the cattle, and to prevent increase of the pests.

When, however, cattle, through any cause become sick, get "off colour," or when pasturage is dry and scarce, and water also, as during periods of drought, then ticks at once assert themselves. The cattle have less power of resistance, the natural oil of the skin is dried up, ticks fasten on in great numbers, the animals suffer from "tick worry," which may become "tick fever," and anyhow some makes the cattle anæmic.

Regular picking of mature ticks, at frequent intervals in yards, where sharp active fowls are kept to assist in picking together, with washing to kill the hundreds of small ticks beneath the hair, are the means every one owning cattle or horses must adopt.

We have continually published receipts for mixtures to kill ticks, mixtures in actual successful use on large pens, and we adver-

tise various proprietary remedies for ticks, which our readers may try for themselves to find which is most economical, combined with effectiveness. We have tried them all, and know they are all good remedies to use. With the month of January ticks will appear in numbers, probably, and, if we have dry weather, will be very irritant. We ask, therefore, that our readers, who own stock, will not neglect to use their utmost effort to reduce and exterminate ticks.

In the Southern United States, they have suffered far more than we do, and here is an account of what they have done there :—

The enormous handicap, which the presence of Texas fever, has placed upon the beef and dairy industries of the Southern States has long been familiar to all who have engaged in these lines of work, as well as to the reading public. The bureau of animal industry made Texas fever one of its important lines of investigation, and solved the problem of the cause of the disease, and the means by which it was transmitted. Following upon its preliminary work came the announcement of a satisfactory method for the immunization of Northern cattle to Texas fever by the use of the blood of immune Southern cattle. This method, first devised by the bureau of animal industry, and later tested on a large scale and perfected in certain details by various experiment stations, has furnished safe means for the introduction of high grade cattle into the South. This made possible the great improvement of existing beef and dairy cattle in that section of the country.

The ticks, however, still remain. They are recognized as the only means by which the disease spread from one animal to another, and, in addition to transmitting the disease, they cause other almost equally serious financial losses. Badly infested cattle are kept in poor flesh, and in many instances fail to reach the size which they otherwise would, or fail to mature as early as they normally should. Some animals are killed outright by excessive infestation with ticks. The total annual loss attributable to cattle ticks in the Southern States has been estimated at $40,000,000. This loss is represented, not only by the animals which die of Texas fever, and of excessive tick infestation, but by the loss in weight and condition, and the depreciation in price of all tick-infested animals, due to the fact that they come from south of the quarantine line. One of the most serious economic results from the presence of cattle ticks in the Southern States is the annoyance, additional expense and business complications due to the presence of the quarantine line running across the country from ocean to ocean.

For years the idea has been gaining ground that the only satisfactory way to solve the problem of Texas fever is to eradicate the ticks, and thus prevent the perpetuation of the disease. A large number of investigators have been engaged in a careful study of the life history of the cattle tick in order to determine whether its extermination is a feasible proposition, and the methods by which this result may be most economically brought about. As a result of this investigation three general methods of tick eradication have been perfected, any or all of which may be set in operation in a given locality. These methods are direct insecticide treatment of cattle with oils and other substances, rotation of pastures and starvation of the ticks by the removal of all animals from certain fenced areas.

The reports received from various inspectors indicate that, as a result of five months' work, about 50,000 square miles of infested territory had been freed from ticks, and might, therefore, be placed north of the quarantine line. The work is being pushed vigorously in Virginia, North Carolina, Tennessee, Arkansas, Oklahoma, and in other localities within the tick-infested area, and, in all localities, the methods of starvation, pasture rotation and direct treatment of cattle with insecticides have yielded the desired results at a comparatively slight expense. In fact, it is at present

estimated that the total expense of the complete eradication of the cattle tick from the United States will, probably, not exceed the amount of annual loss caused to the cattle industry by the presence of cattle ticks.

A great amount of this work, on the part of federal and state inspectors and veterinary officials, must be of an educational nature. It has been found necessary, in the first place, to convince the farmers of the practicability of freeing their farms from the ticks, and of the desirability of co-operating to the fullest extent in accomplishing these results. The educational propaganda of tick eradication has been carried on largely through farmers' institutes and less formal gatherings of farmers in tick-infested localities, and through the personal appeals of inspectors on their tour of inspection from farm to farm. The results of this work are everywhere encouraging, and it seems reasonable to believe that in the future the quarantine line will be gradually pushed southward toward the gulf.

SOWS EATING THEIR YOUNG.

There is considerable difference of opinion as to what causes sows to kill and eat their young, and they are probably as varied as the theories propounded to account for it. Thus the only way to prevent the trouble and loss associated with this propensity of the sow, which is shared largely by rabbits, to mangle her offspring and provide them with sepulchre in her stomach, is to carefully avoid every possible cause. As to the cure, there is nothing uncertain about this, and, whatever variety of opinion there may be as to why sows sometimes behave so unnaturally, there is a general agreement that the best thing to be done with a really vicious sow is to consign her to the butcher, as soon as she can be got fit.

One of the most prolific sources of the evil is insufficient room. Special farrowing pens only rarely exist, except where a large number of sows are kept, and a good system of management is adopted, for anything is considered "good enough for pigs," and the housing of the animals is very often as unsatisfactory as the material on which they are fed.

This is what we mean by possessing the convenience for breeding so often referred to in reply to questions relating to porker production. A tumble-down wooden pen, or a decrepit lean-to structure of the most restricted dimensions, often serves for the piggery, even on farms of considerable size, while it is the usual style of building in which the sow of the allotment or small holder is kept.

We often see large, heavy sows kept in places where they can only turn round with difficulty, and if the animal can get the whole of her body inside the place, it is considered ample for sleeping accommodation. Fattening pigs do not need a great deal of room, but the pregnant and parturient sow requires sufficient floor space on which to move about.

Where the sow sleeps there she must farrow, for the obvious reason that there is no other place, and these are the conditions under which complaints of over-laying and pig-eating are most numerous.

The size of the sow should, of course, govern the size of the farrowing pen, but it is better to err on the side of generosity in the matter of space than to have it restricted, especially for those who do not make one particular breed a speciality.

The size of the pen considered necessary for the large breeds is 8 ft. by 8 ft., and there are those who claim that their immunity from loss in the matter of pig killing and eating is due to the use of pens providing for even a larger superficial area.

In the case suggesting these notes the sow was removed from her regular quarters to another place shortly before due to farrow, and the querist refers to it as a possible cause. It is not at all unlikely, and when there is to be removal from ordinary quarters to a special fallowing place, it should take place some time before parturition is expected, in order that she may get thoroughly accustomed to her new surroundings.—*Farm, Field, and Fireside.*

POULTRY MANURE.

In the *Journal* of the Board of Agriculture (U. K.) for March, there is an article on the value of poultry manure. The different varieties of poultry were carefully tested and the excretions analysed. The results are a striking testimony to an item of value, in connection with poultry, which we have ever insisted on. The average value of fowl manure, per annum, is shown to be 1s. 1d. per annum, ducks 3s. per annum, geese 2s. per annum, turkeys 1s. 6d. per annum. The high value of duck manure is because these animals are large omnivorous feeders. The value of air-dried manure is put at £3 to £2 10s., as it has usually a moderate proportion of sand or earth mixed with it. In this way it can be used at the rate of 6 or 8 cwt. per acre of cultivated or fruit land. A useful plan is to mix two parts of fresh poultry manure with one part of ordinary soil by weight, in alternate layers, kept under cover until ready for use in bulk.

Fowl manure forms a distinctly nitrogenous manure, which stimulates and increases the growth of the leaves, stems, and roots of plants generally as much as a dressing of nitrate of soda or sulphate of ammonia. It contains, however, in addition to nitrogen an appreciable amount of phosphate and potash in a rapidly available form, and on this account is a good, complete manure. Its value as an all-round fertiliser, for all kinds of crops, can be materially enhanced by mixing with mineral super-phosphate at the rate of one part of the latter to five or six parts of the fresh manure, but it must *not* be mixed with phosphate in the form of basic slag, which contains lime. It is calculated that every hundred chickens raised to a laying age should produce manure to the value of £1 3s. 4d. at six months age. ' Experience has shown that, at least, forty birds can be kept on an acre of land without interfering with the growth

of herbage or danger of disease in the birds, and a larger number on arable land.

In Jamaica, although everyone keeps poultry, hardly anybody takes precaution to secure the droppings of their poultry, and the few who do, as a rule, waste it; do not know its value, and so do not apply it to trees. There was a grapefruit tree, within our knowledge, that would not bear anything but small fruit, unsaleable through that cause. A trench was dug, half-moon shape, around one half of the tree, and poultry manure, mixed with dirt, put in. Next season the fruit was, if anything, too gross, but this year, in spite of dry weather, they have run mostly under 80's.

BIRDS.

It is not logical to accuse the mongoose of being *the* cause of the scarcity of birds. He may be responsible for the scarcity of ground birds, although we are inclined to put that to the same cause as the scarcity of birds that build their nests on trees, and scarcely ever alight on the ground. The first cause is the human being. Small boys rob nests and roast and eat the young, often with great callousness; they use the sling to kill all kinds of small birds. Guns are now cheap, and within the reach of everybody, and almost every man in the country has one. Often, under the pretence of shooting hawks and yam birds (which eat the buds on the yam vines) settlers, who are now everywhere renting lands, which formerly were either large working properties in coffee, or sugar, or cattle, or in woodland, shoot all kinds of birds to eat. The other enemies of birds always existed—hawks, "John crows," and rats are the chief. The mongoose has destroyed the snakes that used to prey on birds and their eggs, and has kept rats within something like bounds, but the mongoose is getting scarcer. We have noticed a great diminution these last few years, and a result is a quick increase in the most destructive and impudent of all our pests—rats. There are nearly always compensations in nature for good or ill. The mongoose does good, undoubtedly; he also does some harm. But rats are an exception; they never do any good that we are aware of, for they eat nothing, or keep in check nothing, that we want destroyed or kept in check. What then—does nature ever make things run smoothly for every one? That would be distinctly bad for her chief product—man. It is through the constant effort, the fighting of obstacles, the exercise of thought forced upon him, because he has neither speed, nor fang, nor claw, that man remains the superior animal.

The owl is one of our most useful birds, yet he is shot at constantly by fools—the very men who bewail the digging up of the newly planted corn by rats and mice. Yet the owl is our greatest friend in the cornfield. See him of an evening beat up and down and round about the cleaning; his wings make no sound, and his eyes are large and bright; and in a single evening a pair of owls

when they have young will catch and consume twelve to twenty mice, or three or four rats.

They had not the mongoose in Trinidad when Charles Kingsley wrote, lamenting the absence of birds, and naming the cause as the man with the cheap gun.

Man is ever ready to blame every other cause but himself. The pea-dove is a great tick eater. That bird is shot whenever the season allows, but the mongoose is blamed when there are not plenty of pea-doves to shoot, and blamed, too, for any increase of ticks, because there are not more pea-doves.

What we want now is a crusade in favour of the birds, which have the balance in their favour, and that is nearly all. The pulpit, the press, the teacher, the agricultural instructor must speak out in a practical way, first studying the subject.

INSANITARY MILK.

We believe arrangements are being made to place our milk supply under stringent regulations as regards quality. We have already a Law requiring our fresh milk to be up to a certain standard in butter-fat, and the proposal now is to ensure that condensed milk imported is also up to the required standard, or be plainly stated otherwise. That is, on no tin of condensed milk will it be allowed to be stated that it is composed of whole milk, with or without sugar added, when part of the butter-fat has been removed. Indeed, some of the condensed milks imported are made entirely of skimmed or separated milk, with only a trace of butter-fat, and because it is sold a half penny a tin cheaper, housewives buy it, and feed it to children. It would not matter for adults in this country whether they took skimmed milk or separated milk. Possibly, indeed, this might be better for them, but, for young children, it is essential that whole milk, containing all the butter-fat, be used. Of course, it would be better, far better, if people would use fresh milk instead of condensed milk. The latter is, admittedly, a handy substance, being easily purchased and easily kept, and, being prepared in large factories, subject to Government inspection in Switzerland, Norway, United Kingdom, and United States, or wherever it is made, it is made under good sanitary conditions. For ourselves, we think that to secure a pure, clean, and healthy milk is more important than to secure a certain percentage of butter-fat. There is no single foodstuff in this world through which disease can more readily come, and does come, than milk, and we regret to say that our supply in Kingston is open to the gravest suspicions. We speak of what we absolutely know when we state that a considerable part of the milk supply that comes into Kingston is milked from the cows under the most filthy conditions imaginable. Strict inspection of the source of our milk supply for cleanliness would, to our mind, be a far greater benefit to consumers than inspection of milk to secure standard of butter-milk, although both are necessary, and should be concurrent.

BEE NOTES.

The blossom of the cotton plant is fairly rich in nectar, and if we had extensive fields of cotton, bees would find these good pasture. Honey from cotton, we are told, is very light in colour, the comb very white, and of excellent flavour.

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Wasps.—Wasps, it must be remembered, are not entirely nuisances, or useless, although we are apt to think so. They do good in pollinating many blossoms, pimento for instance, and they are omnivorous, and destroy many small insects deleterious to us.

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Those bee-keepers, who have now realised that bees are like other livestock, and can be improved in strength and quality, and so in honey-getting powers, by careful, systematic breeding, by comfort, and by feeding, will reap their reward. The failures in bee-keeping have been through the same causes as failures with other stock. It is not enough to dump down hives on the ground, and let the bees run themselves, the owner only turning up to take off all the honey and wax he can.

There are good strains of bees as there are of fowls or cows. New queens need to be introduced in some of the hives every year, and the breeding of queens is an art in itself, just as the breeding of pedigree cattle is. One of the great errors made by beekeepers was to clear out every ounce of honey in September, leaving the bees to find food for themselves just when there were few blossoms, just as the rainy seasons were due, and the cold nights were coming. The results were usually that the bees could not get fine weather to work; there were few blossoms anyhow, and they starved. When the blossoms came on with a rush in December and January the weakened colonies had to begin and build up, instead of being in a position to store honey right away. Now wise bee-keepers do not take anything from their hives after July, or, at latest, August. If a long spell of rainy weather comes in October and November, the bees have plenty of stores to feed on and raise brood, so when the "Christmas bells" cover all the hedges, they work upon these blossoms with all their vigour, and store up so much honey right away, that large quantities can be taken off by the apiarists in January, or, in dry years, even by the end of December. This is followed by orange blossoms and coffee blossoms, and then the great logwood blossoming, cashaw, lignumvitæ, ebony, and multitudes of less noticeable flowers. Along the seaboard, in some places, the coconut blossom yields nectar largely, and the banana also yields nectar well.

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Discoloration of Wax.—We have recently been conducting some experiments to show the effect of metals on melted wax. We

used small dishes made of each kind of metal, and put some wax, about the size of a good-sized walnut in each dish, and placed it about 2½ inches above a gas-jet. The frame was adjusted so the wax would be kept at a temperature of about 180 degrees. It was left over the jet in each instance 24 hours continuously.

The samples show just what metal is the best in which to melt wax, as all are different in colour. It will be safe to conclude that any metal changes the colour more or less. Of all tried, copper was the very worst. Next came zinc; then clean iron; next, tin; next, rusty iron; and, lastly, common black iron. We had always supposed that copper would be the best metal in which to melt wax; but the sample plainly shows that it ought not to be used—at least, no one would want to chew the sample. Zinc should not be used as the colour is very dark. We should say tin or black iron would be the most practical, all things considered.

The dishes were made of sheet metal in each instance. Almost all the colours of the rainbow can be had from one sample by using different metals. Does this not explain why cakes of wax as they come from different parties are of different colours?

It is thus shown quite conclusively that copper and zinc had better not be used in connection with wax. The other metals are not so objectionable, and we think it would be perfectly safe to use black iron or tin. In our opinion, the wax from the tin dish had a better colour than any of the rest that was heated.

[This explains the different colours of wax exhibited at shows. The awards by us have always been made to natural wax colours.—Ed.]

POULTRY NOTES.

The hatching season will soon be upon us. Hens begin to lay freely in January, and from then to April is the best time to hatch chickens. Meantime eggs are dear, 1s. 6d. per dozen, and fowls are not plentiful, so we expect eggs to be rather scarce, and they will certainly be in good demand. Last year at this time eggs were being imported! The eggs that usually appear in the market, and too often in the egg-cup, are very diminutive; they almost disappear so that the top cannot be chipped off. The fowls that often appear on the lodging house table are neither fleshy, juicy, nor tender. Now we have often reiterated that tourists will not come here if we cannot feed them, and feed them well. The most common dishes we set before them, and dishes that are liked, if the material is good, are composed of poultry and eggs. Yet few lodging houses trouble to secure a really decent supply of either. No fowl, as it comes from the ordinary yard, is fit for table. Some housewives—a great many of them indeed—take pride in their poultry yard, knowing that it is a necessity for the convenience and well-being of their households. They rear their own fowls, and know them to be clean

fed, and well fed; they may buy some to eke out their supply, but they run them long enough in their yards to become well nourished.

But for tourists, who are catered for by the various hotels and lodgings, the fattening pen for poultry is a necessity. It should not be dark and dirty; it should be water-tight and comfortable—comfort to a fowl means flesh. A sparred or wire bottom is best, in order to let the droppings through easily. No hard corn should be fed a fowl in the fattening pen; on such a diet it will, probably, get thinner and become diseased. No fowl should be kept much longer than a fortnight in the fattening pen. There is little use of putting up a half starved chicken to fat. Such chickens as are bought should be run for a month in the yard first, and fed on corn before being put up to fatten. For fattening, feed cornmeal made into a thick crumbly paste with boiling water, mixed with table scraps, and just feed enough in the morning to be cleaned up. In the forenoon feed some scraps again. In the afternoon, some cornmeal paste again, and in the evening some coconut, where available. This year coconut will be too dear, and some cracked corn, or half-boiled rice should be fed. Household scraps of all kinds, boiled up with cornmeal, is as good a fattening food as can be had. Some people buy the lights or liver of beasts killed by the butcher and boil them up, then chop them up in bits and feed to the fattening fowls. This is excellent; the water the lights are boiled in should not be wasted, but used to mix with cornmeal. Two weeks stuffing of this kind will make a good fowl fleshy and fat, but to continue much longer—three weeks should be the *fullest* limit—this high feeding in confinement would make fowls sick.

Plenty of cool water should be supplied. Where butter is made, the butter-milk can be used for the fowls, and will make the flesh white.

It is a bounden duty on hotel-keepers and owners of lodgings to supply the best of food to our visitors, and great care should be taken with the supply of poultry and eggs.

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KIND OF FOWLS TO KEEP.—A good many people write us asking what kind of fowls to keep as the most profitable. It is seldom explained in what way the profit is to be derived. Are they keeping hens mainly for eggs, and are these eggs for a large household supply to save buying, or are they to sell to others, or are the fowls also expected to be good table fowls for the home table, or to sell readily at 6d. per lb. at least? The precise purpose for which fowls are kept must be borne in mind. If eggs for sale is the principal object, and so long as eggs are sold by the dozen, with the price almost irrespective size, we should recommend Leghorns and Wyandottes, and mixtures of the two, as they do not lay large eggs. If eggs for the house, or a special trade, are wanted, together with a supply of table meat, then, in a dry country, we should recommend Black Minorcas, Buff Orpingtons, or Indian Games, and mixtures of the first with any of the two last named. This is the most useful

if they have no male bird to accompany them they are almost sure to be coaxed away by others. The male bird of the other party will entice them to accompany his hens, and they will do so.

In such cases the eggs will be laid away from home, and the birds will come back to roost and feed. Under these circumstances, it is economy to keep a male bird, and a good fighter too, so that he can look to the interest of his own hens.

STOCK NOTES.

BATES claimed that during thirty-five years of breeding he had effected an improvement in Shorthorns whereby with a third less consumption they had gained a third more weight, and that while their milking qualities were unimpaired, the milk yielded a third more butter.

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LUCERNE AND TICKS.—It is stated in Queensland that ticks will not adhere to cattle which are habitually fed on green lucerne. A well-known farmer, who has had experience of ticks, indicates that there is good ground for the belief that the lucerne-fed beast is not appreciated as a host by the pest. "Lucerne grazing will not keep cattle entirely free from ticks, but it will help to do so; and if dipping is taken in conjunction, there should be very small losses, if any."

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LAMPAS IN HORSES.—Lampas is a common disease among the stable horse, says an *Exchange*, and the barbarous practice is that of operating with hot irons on the tender bars of the horse's mouth. This disease affects young horses before they have their full set of teeth. Young horses, changed from green pasture to dry, hard feed in the stable, are much troubled with it. The bars of the roof of the mouth will inflame, and the horses refuse to eat the feed. The treatment should be simple. Merely give soft feed, consisting of bran mashes, to keep the bowels open, soaked or scalded oats, boiled roots, etc., for a few days, and the trouble will generally disappear. It can positively be said that no other remedies need be used. In case of loss of appetite, one teaspoonful to one tablespoonful of rex conditioner sprinkled over each feed. This will restore a vigorous appetite. Avoid burning the horse's mouth. It ruins the delicate sensitiveness to the touch of the reins so necessary in a pleasant, well-broken roadster. It often destroys the palate, and makes the horse a confirmed "wheezer." Burning is inhuman, and lessens the value of the horse, and it is unnecessary.

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REMEDY FOR TICK FEVER.—To successfully treat animals suffering from this disease, medicines must be administered in the earliest stages. The first symptoms usually noticed with milch cows is

that the secretion of milk is somewhat diminished, although the animal is generally otherwise apparently healthy, and still feeding; but, if the temperature of the animal is taken with a clinical thermometer, it will at once be seen that there is an increase of temperature—viz., from about 101·3 degrees Fahr. (normal), to probably 105 or 107 degrees Fahr. —this is when treatment is of the greatest value, and I would recommend the following:—6 to 12 oz. each of Epsom salts and common table salt, and 2 to 4 drachms or carbonate of ammonia, given in 5 pints of cold water, to which some 3 or 4 lb. molasses can be added beneficially; to be followed every 4 hours by giving 2 to 4 drachms of carbonate of ammonia, 40 to 60 grains of quinine, and about 40 drops of tincture of aconite, in a pint of cold water or gruel.

For young or small animals the smaller doses of the above medicine should be given.

It is essential to drench animals slowly and carefully. If they want to cough, or it appears that the medicine is going into the trachea (wind pipe), the head should be immediately lowered and released for a few minutes.—*Queensland Government Vet.*

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THE YEAST TREATMENT FOR BARRENNESS.—A remedy that may be useful in getting some non-breeding cows with calf is prepared as follows:—Take an ordinary two-cent cake of yeast, and make it into a paste with a little warm water. Allow this to remain in a moderately warm place for twelve hours. Then add 1 pint of luke warm, freshly boiled water, mix, and allow to stand for another twelve hours. Prepare this mixture twenty-four hours before the cow is expected to come on heat, and inject it into the vagina the moment she is seen to be in season. Breed her at the last of the period.

The theory upon which the use of this mixture is based is that certain bacteria invade the generative organs of the female, and give rise to an acid condition, which destroys the female ova and the male spermatozoa. The yeast is supposed to penetrate to every part of the organs, to destroy the bacteria, and, incidentally, to neutralise the acids which are destructive to the sexual fluids.

Dr. Peters, of the Nebraska Experiment Station, is credited with the promulgation of this theory, it having been suggested to him from a French medical book or journal. The practice is wholly experimental as yet, and the experience of any who may try it would be appreciated by others.

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During the five years of careful investigation in regard to the cost of production of butter between cows spare and angular in form, and cows carrying considerable superfluous tissue (says Professor Haecker), our records show that in every instance the cow that carried the least flesh charged the least for butter, and just in so much as one cow was a little smoother and plumper than the other would

her butter product cost more than the other. It should be borne in mind that the results are from accumulated testimony, showing not only that every day, every week, every month, but during her entire lifetime, the spare cow is better. That she should be so much better is almost incredible, strong and uniform as the evidence is.

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Lawes and Gilbert conclude that the evidence of both common experience and direct experiment indicates that a liberal supply of nitrogenous food favours, not only a high yield of milk, but also a high percentage of fat in the milk; and the question arises whether the fat of the milk is wholly or in part a product of the decomposition of proteids. And, as milk is the product of the breaking up of the milk gland, the further question arises—how far the fat results from the decomposition of the proteids of the gland itself—a supposition which, as they point out, obviously involves the difficulty of explaining what becomes of the by-products of the formation. So far as increased production of milk fat, under the influence of a high fat ration, is concerned, the German results are, to some extent, supported by the experiments recently made at the Midland Dairy Institute.

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THE FOOD VALUE OF A QUART OF MILK.—Much attention is now being paid to the selection of feeds for our farm animals, and but little heed is given to the comparative value of foods for the human family. We quote the following paragraph from Prof. Atwater:—

"A quart of milk, three-quarters of a pound of moderately fat beef, sirloin steak for instance, and five ounces of wheat flour, all contain about the same amount of nutritive material; but we pay different prices for them, and they have different values for nutriment. The milk comes the nearest to being a perfect food. It contains all of the necessary ingredients for nourishment, but not in the proportions best for ordinary use."

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JEYES' FLUID.—This is a well known antiseptic and disinfectant, indispensable to the man who keeps stock. It costs 4s. 6d. per gallon, or 1s. 7d. per quart in Kingston; usually, somewhat more in the country. It is used for sores on all animals, and for skin diseases. It can also be used internally for worms in horses, and is better than turpentine in this respect, but needs more care exercised. For saddle sores and cuts, one teaspoonful of Jeyes to a pint of water forms the strength to be used as a wash, and this quantity put in a bottle will thus last for a few days in dressing the sores or cuts every day. For injections in horses or cattle, to clear out the bowels, the strength is four teaspoonfuls to four quarts of warm water. This is also the quantity and strength to clean out the vagina of mares and cows. For hair lice in horses the strength should be four tablespoonfuls to two quarts of water, and the horse should be

washed or rubbed over with a cloth dipped in the mixture. For worms in horses one tablespoonful of Jeyes, in a pint bottle of sweetened water, should be poured over the horse's throat, taking great care not to let any get in the windpipe. For "fly" at the navel of young calves the Jeyes should be touched on pure, or half castor oil.

In all wounds from rusty nails, or any rusty or dirty article, at once wash out the wound with strong Jeyes and water, and in cases likely to be dangerous, like a bite from a dog or any animal, rub in the raw Jeyes.

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TINCTURE OF IODINE.—We have found this the simplest specific, considering its effectiveness, for all kinds of swellings in stock. It is the best thing to use for yaws in poultry, to be touched on with a stiff feather, and for swellings on the face caused by roup; also for rattling in the throat in fowls (bronchitis). For this it should be painted on the "ball" of the throat (larynx). Every skin disease in stock, which cannot be got under by the use of drenches, healing oils, or Jeyes fluid and water mixed, an equal quantity of Tincture of Iodine and coconut oil rubbed on, may be used with good effect.

A small phial of this Tincture can be got from chemists for from 3d. to 6d., which will last for a long time under ordinary circumstances.

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PERMANGANATE OF POTASH.—This can be bought from the chemist in the form of a powder, and so can be carried on the person more conveniently than a fluid like Jeyes. The slightest pinch of Permanganate in water makes a good antiseptic, the same as Condy's Fluid. It turns the water pink. For use on stock, Jeyes is more effective, but for use in the house, Permanganate is milder and more pleasant. It can be used to bathe cuts and sores, and for skin diseases, and wherever swellings occur. One teaspoonful of Permanganate of Potash to four quarts of water is a strong wash and disinfectant for foul sores, and foul smells. For use as a wash for the eyes of stock, this should always be used in preference to Jeyes as it does not burn.

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CARBOLIC ACID.—This is one of the strongest antiseptics and disinfectants, but it is such a strong burning agent, and such a deadly poison, that we very seldom recommend its use here for fear of carelessness. In nearly all cases Jeyes' Fluid serves the purpose; and where a burning action is wanted, such as yaws on poultry, Tincture of Iodine can be applied more safely. A teaspoonful of commercial carbolic acid to a pint of water is the strongest wash and disinfectant necessary. It is, however, of far more utility than Jeyes, when used in whitewash for killing scale insects on orange trees. It must be carefully kept and used.

COMMENTS.

ROPES.—Referring to our remarks in last JOURNAL on the making of native hemp rope, a further good point about such a home industry is, that it would lessen the use of mahoe bark rope, the material for which means the destruction of trees that make the finest lumber that we have.

We note with pleasure now that local shows, in offering prizes for native-made ropes, say "other than mahoe."

No less than £8,500 worth of rope, and other cordage, was imported into the Island last year.

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IMPORTATIONS.—Since the last issue of the JOURNAL, we have imported two pure-bred bulls for Mr. H. Heron, of Shooter's Hill: a red Shorthorn and a South Devon from England; a pedigree dairy Shorthorn from the Agricultural College, Nova Scotia, for the Hon. J. V. Calder; a Plymouth Rock cock for Mr. W. H. Hall, of Mandeville, well known as a breeder of Plymouth Rocks, and who has wisely kept to this one breed for many years, so that he knows it; a Minorca cock for Dr. Purchas, Clark's Town, who has already this breed; and a pen of White Leghorns, a cock and four pullets for Mr. D. E. Clough, of Kingston, a good foundation stock to breed from.

We can guarantee every one of these importations to be stock that the Island can be proud of. With the cattle we have not been tied down as regards expenses, and have been fortunate, in these days of high prices for stock, to secure extra value. While we regard pedigree as a valuable asset, with a worthy animal itself before us, we are more assured, and, when we have also good actual performances, we are content.

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RUBBER SEED.—Besides stock, we have received a supply of Virgen rubber seed from the mountains in the far interior of Columbia. This seed has been very difficult to get, indeed, and we have been five years attempting to get supplies. For a description of Virgen rubber, see JOURNAL for May, 1906. It grows in Columbia over a limited region, so far as is known, from 3,000 to 7,000 feet altitude, and would be suitable to grow here, where there are good soils and a regular and free rainfall, from 2,200 feet or so upwards. Some of the seeds have been sold, and the balance have been planted, and young plants may be available for sale in six months.

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SHOWS.—On the 26th December, the Trinityville Branch will hold a show, confined to its members and their families. This is not the parish show, intended to be held earlier in the year, but postponed on account of the earthquake and the drought, but what

we may call an interim show. Owing to the kindness of His Excellency the Governor in offering special prizes for cocoa, coffee, and oranges, there should be keen competition in these products. The Appleton show will be held on the 1st January, when the trains, up and down, will stop at Maggotty crossing, right in front of the show grounds. His Excellency the Governor has arranged to open this show.

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Branch Reports.—We call the attention of the Branch Secretaries to the fact that arrangements for the space in the Journal are usually made nearly a month ahead; that only a limited amount of space can be allotted for Branch Reports, and that these should reach us by the last day of each month to be inserted in the following month's Journal. Even though space were available, a report, published two months after the meeting was held, would be out of date, and lack interest.

If a report is received too late for one Journal, it is unlikely that it can be inserted in the following Journal. We desire to have reports, and we appreciate them, and we think also that readers like to see what is doing among the various Branches, but Branch Secretaries must have some consideration for our publishing arrangements.

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Dairy Show.—The National Dairy Show, held in London every year, is a great event. All the milking breeds of cows compete for two sets of prizes—for appearance, and for performance. Cross breeds also compete in the latter. Dairy bulls also compete for prizes for best type, and there are classes for milch goats also. There are classes, too, for cream, butter, and cheese, foods for dairy stock, and for dairy appliances. The keenest competition is in the milking contests, and butter making. There were 135 entries for the former, and 200 for the latter, this year.

For dairy bulls, Lord Rothschild was first with "Traveller," and Mr. J. T. Hobbs second with "Royal Pluto." This latter is a brother of the red Shorthorn bull, "Royal Pluto IV," imported by us for Mr. Hugh Heron, Shooter's Hill. Thus, this massive looking young bull, only fifteen months old at this date, has some of the finest dairy blood in him.

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Shipping Oranges.—Reports of the fruit carried by the S. S. "Port Royal," which left here in October, tell us that the oranges arrived in very poor condition, there being much wastage.

In the future we shall not have to depend entirely even on cold storage for carrying fruit safely. We shall require to have some artificial process to close the pores and shrink the skin. The Formalin process, undoubtedly, coloured grapefruit and oranges, making

them turn quickly from dingy yellow into a deeper and more attractive shade, but it was not proved a preservative of fruit, and, even if it had, it would be a cumbersome process to work with large quantities of oranges. Mr. H. E. Bennett, in the JOURNAL, for last month, page 287, tells how he has been successful in curing and colouring grapefruit by a method, which might be done on a large scale. We require something that can be done expeditiously. Charcoal, sulphur, or formalin fumes might be tried, and, if successful, a whole packing house of fruit can be done in a night.

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PROSPERITY OF CEYLON.—Ceylon appears, from all accounts, to be in an exceptionally prosperous condition. The planters of Ceylon, in fact, regard their colony as making a record second to no other British dependency, and they have no such fears for the future as existed at the time when their hopes in respect of coffee began to be dissipated. Not least of the encouraging features of the situation is the success, to date, of rubber planting in Ceylon. There may have been a time when some planters turned to rubber as a sort of last resort when other planting prospects were none too bright, but that feeling does not now exist. Rubber has come to form one more profitable crop, and thus removes the planters further from the position of having "all their eggs in one basket."—*India Rubber World.*

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FOOD SUPPLIES.—All over the world, with the exception of Argentina, grain and root crops are short. The wheat crop of Canada is estimated to be three million bushels short of last season, which itself was a short crop. In the United States, nearly all crops are also short—wheat, corn, potatoes, down to honey, the last of which we are also interested in. This is owing to a wet spring, and wet, cold summer. In Australia, and in India, wheat crops are short. In the United Kingdom, owing also to a wet, cold summer, crops are generally poor, and, in addition, in the South of Scotland, two million pounds damage was done by flood. In the East of England, however, crops are good.

Our home crops of yams, sweet potatoes, cassava, and corn were all very short last season, because of the drought, and we do not see anything in sight from the "fall" planting but the most moderate results from crops to come in between now and the "spring," when general planting takes place again. Perhaps beans have turned out best, but they are dear, owing to the demand through shortage of other foods, 7½d. to 9d. per quart being asked retail, and 1s. per quart for native red beans in some parts.

The weather has not been promising for good results, the rainfall has been light, and many anticipate drought again, but we look forward to regular light showers generally, and, if we get these on to the end of January, it will be satisfactory enough. Wherever

good showers are falling regularly—and there are parts always fortunate enough in this way—food crops should be planted to the largest extent possible. Beans and peas, sweet potatoes, and cassava are crops that can be planted more times of the year than any other. Very light showers are enough to grow them, and they must continue to be in great demand locally. There has been a great enquiry for sweet potatoes, as well as yams, for shipment to Colon, but we are, unfortunately, short enough for home wants. In times when foodstuffs are scarce, especially where irregular and light rainfall is anticipated or happening, sweet potatoes are a great standbye. No mistake can be made in planting plenty.

BRANCH NOTES.

Central St. Andrew.—The annual meeting of this Branch was held on the 17th November at St Christopher, Rev. G. D. Purdy presiding. Mr. Briscoe, Travelling Instructor, was present. The officers for the past year were all re-elected, and it was agreed to have the rules amended as early as possible. Mr. Briscoe suggested that a show should be held, in order to encourage the members, and all present fell in with the suggestion. A show will be held in March or April. A committee has been appointed to prepare the prize list.—E. A. EDWARDS.

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Lititz and Nain.—At a meeting of the Lititz and Nain Branch of the Agricultural Society, held in the Lititz schoolroom on the 15th November, the nine members were enrolled, and are entitled to have JOURNALS sent them. Nothing of importance occurred. A point was raised as to the opinion of the crop immediately after a long drought. The members were of the opinion that under the best conditions, the crop is an extraordinary one. Their opinion is based on the promising return of the seed corn sent them by the Society, and which will be gathered about six or eight weeks hence. The rules are not yet to hand. As soon as they are ready they shall be sent. Messrs. Lewis Clarke, Prince Stewart, and John Stewart complain that their JOURNALS have not been sent.—P. F. HUTCHINSON, Secretary.

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Thompson Town.—On Friday, the 8th November, the members of the Thompson Town Branch of the Jamaica Agricultural Society met in the schoolroom for their regular bi-monthly meeting. The following members were present from Smithville: Messrs. J. B. Morrison, H. Peck, J. H. Adams, W. Reid, E. Palmer, Fred. McLymont, R. Pink, and the Secretary. Although notified that it was the day appointed for the annual meeting, the election of officers to serve during the current year, and the reading of the Treasurer's and Secretary's reports, the members of the Thompson Town district did not turn up. (Many afterwards said they had forgotten the date.) As there was a quorum, Mr. J. B. Morrison was asked to take the chair, and the meeting was called to order. The minutes of the last meeting were read and confirmed. The Treasurer's and Secretary's reports were read and accepted. Some business of minor importance was dealt with, but the election of officers was postponed until the 13th December, when a special meeting will be held, as there was not a general turn-out of members, and as it was decided not to elect anyone who was not present. The Smithville members have decided to form a sub-branch at Smithville, and not to come over to Thompson Town, ex-

cept on days when special meetings are called. This will be fully considered at the next meeting. Several interesting points, observed by the members from the last JOURNAL, were discussed with profit. After the singing of the National Anthem, the meeting was then adjourned till Friday, the 13th December. Our energetic Agricultural Instructor, who is usually punctual, having missed the date, turned up several days after.—W. A. BRYAN, Secretary.

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Santa Cruz Mountains.—The meeting of this Branch, on the 22nd November, was badly attended on account of rain. There were sixteen persons present. The Myersville Society is a Branch of this Society. There are five paid-up members belonging to that Branch. Resolutions from Myersville, in re water supply, were sent to the Parochial Board of this parish to be handled by the Water Supply Committee of the Board. Rev. G. O. Heath and Mr. W. P. Holness became members of this Branch. Prize list and rules from the Appleton Branch were distributed among the members. Placards *re* the Appleton show were shown and ordered to be put up in public places. A letter was read from Mr. John Stewart resigning his office as Secretary of this Society, but offering his help where practicable, and also remaining a member of the Society. The Acting Secretary was instructed to write Mr. Stewart thanking him for his services to the Society. Mr. N. E. Seal was appointed Secretary, and the sum of 5s. placed at his disposal to defray expenses on correspondence. Mr. Palache was asked to address the meeting, and, in doing so, he read some very interesting extracts from Wood's Book on Loan Banks. He impressed on the members to accept the scheme laid down by Mr. Wood dealing with self-help and co-operation. After thanking Mr. Palache, a committee on Loan Bank was elected to draw up rules, and report to the meeting on the third Friday in January, 1908. Some of our members have not been getting their JOURNALS. Five new members, from Myersville P.O., are:—F. Mitchell, D. D. Sampson, H. Maxwell, S. Lynch, and J. Gale. Two new members, Malvern P.O., Rev. G. O. Heath, and W. P. Holness.

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Newmarket.—A meeting of the Newmarket Branch Agricultural Society was held at its rooms on Friday, the 18th October. Mr. Palache, who was present, was made an *ex officio* member of the Society. The chief business done was as follows:—Four new members were elected, namely, Messrs. H. A. Forde, S. M. Bogues, F. Dennie, and Richard Mason. In *re* the boar: it was agreed to sell same, and it was also agreed to wind up the present Loan Bank. Mr. Palache promised his help, free of charge, to establish one, in connection with the Society, on a legal basis. The whole matter is to be discussed in December. Mr. Palache lectured on (*a*) Coffee, (*b*) Jippi-jappa, (*c*) Sumatra Tobacco, and (*d*) Vanilla. The lecture was enthusiastically received, and, really, this was one of the best meetings ever held for a long time. The Secretary was instructed to obtain jippi-jappa plants, and to ask the Director of Public Gardens for 1 lb. Sumatra Tobacco seeds for the use of the members of the Society. Questions were asked the lecturer, satisfactory answers were given, and a hearty vote of thanks was accorded him. In reply, Mr. Palache said that he thanked the Society for its thanks, but the best thanks he can get is to see the members putting into practice his instructions, and he is right. Weather:—The usual October rains were not much in evidence this year, and we hope this does not mean a long, dry weather ahead. Crops:—Coffee has borne remarkably well. The prices are low, however, 2½d. to 3d. per lb. Prædial larceny is rampant as regards the catch crops. Even the two school gardens around here have been entered. Such things tend to disgrace any community, and to deter people from throwing themselves heartily into agricultural works. The oranges are dropping off the trees; no one to buy. Health:—The health of the community is good.—A. E. M. SHAKESPEARE, Secretary.

Balaclava.—A very profitable and interesting meeting was held in connection with the Balaclava Branch of the Jamaica Agricultural Society. Mr. J. T. Palache was present. In the absence of the Chairman, Dr. J. Neish presided. The Secretary brought to the notice of the meeting a letter, accompanied by programmes, that he had received from the Secretary of the Appleton Branch, referring to the show to be held at Glenwyn Pen on the 1st January, 1908. Mr. Palache very lucidly brought the claims of the Appleton Branch before the meeting, and invited the members to prepare exhibits. Intending exhibitors should bear in mind that application for live stock must be sent to the Secretary, Mr. George Raintallie, Siloah P.O., not later than 21st December, 1907, and that a certificate, duly signed by the President and the Secretary of the Branch to which they belong should accompany the application. The members present were amply repaid for any little discomforts they experienced through the rain. Mr. Palache had a practical subject, and he dealt with it in a practical and highly efficient manner. The great requisites for the preparation of coffee, he said, are (1) a tank, (2) a barbecue, (3) a pulper, and (4) threshing and fanning machines. Nos. 1, 2, and 3 were within the reach of the passer-by. Valuable hints were given as to the methods to be adopted in making them. No. 4 is beyond the reach of the individual peasant, but by co-operation, which, unfortunately, is a plant of slow growth in Jamaica, as is done in cheese-making in Switzerland, the difficulty would disappear. The lecturer drew the attention of the meeting to the peculiar property coffee possesses of losing its own odour, and imbibing that of its next door neighbour. He, therefore, warned his hearers against placing their coffee in close proximity to anything impure. He also suggested that the coffee should be pulped, if possible, the same day it is picked. It was thought desirable that the Branch procure a small plot, to be planted and kept as a model. No sooner was the suggestion brought to the notice of Charles Phang, Esq., than he generously offered the plot required. Now that the Branch is interesting itself in the Evergreen road, there is every probability of the Manchester Parochial Board placing it on the schedule, and working it, thus supplying a long felt want.

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Stewart Town.—A meeting for the purpose of organizing a Branch of the Agricultural Society, at Stewart Town, was held in the Baptist chapel on Thursday evening, the 17th October. The number of agriculturists present was not as large as it should have been. This was due to the fact that it rained heavily during the afternoon, and many who had intended to be present were prevented. Still, there was a sufficient number present for the transaction of business. The Hon. and Rev. W. M. Webb, and Mr. E. Arnett (Agricultural Instructor) were also present. Mr. Webb opened the meeting with prayer. He then stated the object of the meeting, after which he asked Mr. Arnett to explain the benefits of an Agricultural Society. This Mr. Arnett did very fully and clearly, and all present were highly interested in the explanation given as to the value of an Agricultural Society. The appointment of officers was next proceeded with, and the following gentlemen were elected to serve:—Hon. and Rev. W. M. Webb, President; Mr. H. R. Milliner, Vice-President; Mr. John Stockhausen, Treasurer, and Mr. Josiah Johnson, Secretary. A Managing Committee was also appointed, consisting of the officers, with Messrs. Chas. McFarlane, A. Norman Bernard, James Smith, Edwin Brown, John Davidson Brown, Joseph Hall, R. H. Brissett, James Ferguson, Thomas Moreland, and five others. The planting of cotton was spoken upon, and on the suggestion of Mr. Arnett, those present, for the purpose of giving the matter a fair trial, and make it a success, favoured the idea of forming a company with a limited capital of about £5 among the members themselves, each taking one share of 2s., or more, to acquire an acre or so of land in the district for the cultivation of cotton, the profits obtained from the sale to be proportionately divided among the shareholders. The plot

of land is to be under the direct supervision of the local Agricultural Instructor. The scheme will be discussed in details at the next meeting of the Managing Committee, which will be held on Thursday evening, November 14. If the proposed local company is formed, planting operations will begin in March, 1908, the next planting season for cotton. On the motion of Mr. J. Johnson, seconded by Mr. J. Davidson Brown, a hearty vote of thanks was accorded Mr. Arnett for journeying to Stewart Town that evening, notwithstanding the inclement weather to attend the meeting, and start the Branch.

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Hanover.—The quarterly meeting of the Hanover Society was held on the 15th November in Lucea. There was a fair attendance; C. A. Cover, Esq., B.A., was in the chair. It was reported that Mr. A. C. Robinson had accepted the chairmanship of the Watford Hill and Hopewell District. The Secretary stated that this year nearly 12,000 Jippi-jappa plants had been obtained through the Society. These were growing very well in all places where they had been planted. The prospect for straw in the future was assured. He further reported that classes to teach hat-making had been started at Riverside and Maryland; that one would be started at Pondside this month, and that enquiries were being made regarding other places. So far as he could learn there were about one hundred, who were making hats, or were learning to make them, through the efforts of the Society. It was reported that the number of members was 128 against 195 last year. The Secretary reported that the two barrels of potatoes he had ordered for members had arrived at Lucea in a rotten condition. The Secretary brought up the matter of a show in 1908. After discussion, he suggested that there should be a show in 1908, and that in 1909 there should be a competition among the small holders, who were members of the Society. Four years were too long to wait until the parish competition came round. This would assist to keep the matter before the members of the Society, and prepare the way for the next parish competition. This suggestion was considered to be a good one, and it was agreed to act on it. Thus there will be a show on the first day of August. As this is a Saturday, it is supposed the public holiday will be held on Monday, the 3rd August. The show will be on the public holiday. Messrs. Cradwick and Mennell were present. Mr. Cradwick gave an interesting lecture on Castilloa Rubber. At the close of it, orders were received by the Secretary for 500 plants. It was agreed that 1,000 be ordered, and that the advantage of having these trees be brought before the members. Orders for 900 jippi-jappa plants were also received. A very hearty vote of thanks was awarded to Mr. Cradwick, whom every one was pleased to see in the district again. Mr. Cradwick, in replying, said that he noticed great improvements in the parish. He was pleased to see the way in which Mr. Mennell had been working the Prize Holdings Competition. He congratulated the Hanover Society on the work it was doing in the parish. The Secretary, in speaking on the work of Mr. Mennell, said that he had a difficult position to fill in following Mr. Cradwick, but that he was doing very well, going in and out among the people, and showing them, by practical demonstration, what to do. He had been received very much for Mr. Cradwick's sake; now the people were receiving him for his own sake. Mr. Mennell expressed the pleasure he felt at being present, and that he felt encouraged to go in the work when he saw the signs of improvement. He thought he was fortunate in being appointed to the work just as the Holdings Competition was on. It had given him something definite to work at. Now he would work up the show, and he was glad the Society had decided to have a competition among members in 1909 in small holdings. The next meeting will be on the third Saturday of February. It will be the annual meeting, at which office-bearers are appointed, and at which the rules may be changed. Notice was given that the date of meeting should be the second Saturday instead of the third.—JOHN F. GARTSHORE, Secretary.

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